ON THE BOXICITY AND

with the $N(x)$ a
also be motivat

These two r
of a graph, the
sharp upper bo
of points. We st

is embeddable into n-
graphs. For, each co
easily that if $G = H$ (

Following [4], it
the points of the gra
Note that since our g
two points are equiva

PROOF: Suppo
If $k > 0$, embed
$\langle 0, 0, \ldots, 0 \rangle$ and
Next, suppose
embedded into k-
and so not embed

the case $n = 0$. Next, sup

where each $G_i = (A, I_i)$ i

lection of all I_i so that I_i i

a graph $K_j = \bigcap \{G_i : I_i$

graph H_j described abov

I_i is in one and only on

each i, $I_i \supseteq I_j$. Thus, if

To close thi
partite graphs,
is left to the rea

LEMMA 1. *A*
subgraph of the

LEMMA 3. *If* $n \neq 3,$

PROOF: The major

inequality:

$$e(n)$$

We are no

$n \neq 3$, 6, and s

prove cub $G \leq$

subgraph of the

Clearly $n \geq 4$,

cub$(G - \{a, b,$

by Lemma 3 a

PROOF: If $p > 1$, t

wise, the result is triv

Note that if all n_j

in Theorem 7 also c

dimensional hyperpla

optimal. Suppose nc

$E(n-2)+1$, w
and Corollary 7